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U.S. DEPARTMENT OF LABOR

WORKPLACE STANDARDS ADMINISTRATION

Bureau of Labor Standards

COPY

MATERIAL SAFETY DATA SHEET DPM 1447

SECTION I

MANUFACTURER'S NAME: THE IRWIN-HODSON COMPANY/Marking Systems Division	EMERGENCY TELEPHONE NO.: (503) 232-9122
ADDRESS (Number, Street, City, State, and ZIP Code): 725 S.E. Powell Bv. Portland, OR 97202	
CHEMICAL NAME AND SYNONYMS	TRADE NAME AND SYNONYMS: No. 15 Drimarquette Ink
CHEMICAL FAMILY	FORMULA

SECTION II HAZARDOUS INGREDIENTS

PAINTS, PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	%	TLV (Units)
PIGMENTS			BASE METAL		
CATALYST			ALLOYS		
VEHICLE			METALLIC COATINGS		
SOLVENTS			FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES			OTHERS		
OTHERS					

HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES	%	TLV (Units)
Cresylic Acid (Cresol)	40	5 ppm
Aniline	18	5 ppm
Methyl	18	200 ppm

SECTION III PHYSICAL DATA

BOILING POINT (°F.) (Initial) Approx.	150' F	SPECIFIC GRAVITY (H_2O=1)	1.05
VAPOR PRESSURE (mm Hg.)	?	PERCENT VOLATILE BY VOLUME (%) approx.	18
VAPOR DENSITY (AIR=1)	?	EVAPORATION RATE (_____=1)	?
SOLUBILITY IN WATER	partial		
APPEARANCE AND ODOR	black liquid, phenolic odor		

SECTION IV FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method used) PM closed cup 100' F.	FLAMMABLE LIMITS	Lel	Uel
EXTINGUISHING MEDIA: Carbon dioxide or dry chemical			
SPECIAL FIRE FIGHTING PROCEDURES: none			
UNUSUAL FIRE AND EXPLOSION HAZARDS: Vigorous reaction to strong oxidizing agents			

SECTION V HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE

EFFECTS OF OVEREXPOSURE

See attached data on

Cresole, aniline and Methanol

EMERGENCY AND FIRST AID PROCEDURES

SECTION VI REACTIVITY DATA

STABILITY	UNSTABLE		CONDITIONS TO AVOID
	STABLE	X	

INCOMPATABILITY *(Materials to avoid)* strong oxidizing agents

HAZARDOUS DECOMPOSITION PRODUCTS

HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID
	WILL NOT OCCUR	X	

SECTION VII SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

flushing with water

scrubbing with alkaline detergents

WASTE DISPOSAL METHOD as recommended for cresols

SECTION VIII SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION *(Specify type)* none

VENTILATION	LOCAL EXHAUST	SPECIAL
normal	MECHANICAL *(General)*	OTHER

PROTECTIVE GLOVES recommended

EYE PROTECTION avoid contact with liquid

OTHER PROTECTIVE EQUIPMENT none

SECTION IX SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING Avoid excessive breathing of vapors

and contact with eyes and skin

OTHER PRECAUTIONS

TO:

SUBJECT:

REF. NO.:

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For your information, the following are data on the ingredients which are considered hazardous to any degree. These are copies from "Dangerous Properties of Industrial Materials, 3rd Edition" by N. Irving Sax.

CRESOL

General Information

Synonyms: Cresylic acid, cresylol, tricresol.

Description: (U.S.P. XVI) mixture of isomeric cresols obtained from coal tar; colorless or yellowish to brown yellow or pinkish liquid, phenol-like odor.

Formula: $C_6H_4OHCH_3$.

Constants: Mol wt: 108.10, mp: 10.9–35.5°C, bp: 191–203°C, flash p: 110°F, d: 1.030–1.038 at 25°/25°C, vap. press.: 1 mm at 38–53°C, vap. d.: 3.72.

Hazard Analysis

Toxic Hazard Rating:

Acute Local: Irritant 2; Allergen 1; Ingestion 2; Inhalation 2.

Acute Systemic: Ingestion 2; Inhalation 2; Skin Absorption 2.

Chronic Local: Irritant 3; Allergen 1.

Chronic Systemic: Ingestion 2; Inhalation 2; Skin Absorption 2.

TLV: ACGIH (accepted); 22 milligrams per cubic meter of air; 5 parts per million in air. May be absorbed via intact skin.

Toxicology: Cresol is similar to phenol in its action on the body, but it is less severe in its effects. It has corrosive action on the skin and mucous membranes. Systemic poisoning has rarely been reported, but it is possible that absorption may result in damage to the kidneys, liver and nervous system. The main hazard accompanying its use in industry lies in its action on the skin and mucous membranes, with production of severe chemical burns and dermatitis (Section 9).

Fire Hazard: Moderate, when exposed to heat or flame.

Explosion Hazard: Slight, in the form of vapor when exposed to heat or flame (Section 7).

Explosive Range: 1.35% at 300°F.

Disaster Hazard: Dangerous; when heated to decomposition, it emits highly toxic fumes; it can react vigorously with oxidizing materials.

Countermeasures

Ventilation Control: Section 2.

Personnel Protection: Section 3.

First Aid: Section 1.

Storage and Handling: Section 7.

To Fight Fire: Foam, carbon dioxide, dry chemical or carbon tetrachloride (Section 6).

Shipping Regulations: Section 11.

Coast Guard Classification: Inflammable liquid.

MCA warning label.

IATA (liquid: Poison B, poison label, 1 liter (passenger), 220 liters (cargo).

ANILINE

General Information

Synonyms: Phenylamine; aminobenzene; aniline oil.

Description: Colorless, oily liquid.

Formula: $C_6H_5NH_2$.

Constants: Mol wt: 93.12, bp: 184.4°C, lel: 1.3%, uel: 20–25, flash p: 158°F (C.C.), fp: −6.2°C, d: 1.02 at 20°/4°C, autoign. temp.: 1418°F, vap. press.: 1 mm at 34.8°C, vap. d: 3.22.

Hazard Analysis

Toxic Hazard Rating:

Acute Local: Allergen 2.

Acute Systemic: Ingestion 3; Inhalation 3; Skin Absorption 3.

Chronic Local: Allergen 2.

Chronic Systemic: Ingestion 3; Inhalation 3; Skin Absorption 3.

TLV: ACGIH (recommended); 5 parts per million in air; 19 milligrams per cubic meter of air. Absorbed via the skin.

Toxicology: The most important action of aniline on the body is the formation of methemoglobin, with the resulting anoxemia and depression of the central nervous system. Some investigators believe that aniline may also have a direct toxic action, resulting in a fall in blood pressure and cardiac arrhythmia. In acute exposures, which usually result from spilling the liquid on the skin and clothes, but which may also follow the inhalation of the vapor given off when aniline is heated, the signs are of methemoglobinaemia and anoxemia. In less acute exposure which has been prolonged over some weeks or months, there is usually hemolysis of the red blood cells, followed by stimulation of the bone marrow and attempts at regeneration. The red cells may show stippling; immature cells may be present. The white blood cells usually show little change either in number or morphology. The liver may be affected, with production of jaundice. The urine is frequently dark brown or wine colored, and may contain hemoglobin, hematoporphyrin, and in some cases, excretion products of aniline, such as p-aminophenol. Long continued employment in the manufacture of aniline dyes has been associated with the development of papillomatous growths of the bladder, some of which became malignant. Aniline itself has not been proven to be a carcinogen, but the intermediates benzedine and naphthylamines have been incriminated. See α-1 and β-naphthylamine. Note: A common air contaminant (Section 4).

Caution: Mild sensitizer. Local contact may cause contact dermatitis (Section 9).

Fire Hazard: Moderate, when exposed to heat or flame.

Spontaneous Heating: No.

Disaster Hazard: Dangerous; when heated to decomposition, it emits highly toxic fumes; can react vigorously with oxidizing materials.

Countermeasures

Ventilation Control: Section 2.

To Fight Fire: Alcohol foam, carbon dioxide, dry chemical or carbon tetrachloride (Section 6).

Personnel Protection: Section 3.

First Aid: Section 1.

Storage and Handling: Section 7.

Shipping Regulations: Section 11.

I.C.C. Classification: Poison B; poison label.

Coast Guard Classification: Poison B; poison label.

TOXIC HAZARD RATING CODE (For detailed discussion, see Section 1.)

0 NONE: (a) No harm under any conditions; (b) Harmful only under unusual conditions or overwhelming dosage.

1 SLIGHT: Causes readily reversible changes which disappear after end of exposure.

2 MODERATE: May involve both irreversible and reversible changes not severe enough to cause death or permanent injury.

3 HIGH: May cause death or permanent injury after very short exposure to small quantities.

U UNKNOWN: No information on humans considered valid by authors.

Torei
P O BOX 1048
PORTLAND, OREGON 97207

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